LineUp With Math™ Alignment to
Utah Mathematics – Elementary Algebra [2002]
Process Standards, Core Standards and Objectives

Process Standards

Problem Solving

Process Standard	***LineUp With Math*™ Activities**
5. Utilize different problem solving strategies including: a. Drawing a picture or diagram. b. Looking for a pattern. c. Identifying counterexamples. d. Choosing an appropriate operation. e. Guessing and checking. f. Making a list, table, graph, or equation. g. Working backwards. h. Eliminating possibilities. i. Making a model or simulation. j. Solving a simpler or related problem. k. Checking the reasonableness of results. l. Using proportional reasoning.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Choose and apply a variety of strategies to optimize the solution of air traffic control conflicts.
8. Estimate solutions to problems and determine the reasonableness of answers by relating them to the estimates.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Reasoning and Proof

Process Standard	***LineUp With Math*™ Activities**
2. Explain and justify problem-solving procedures.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
3. Examine patterns and note regularities and irregularities in various types of problems.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

Communication

Process Standard	***LineUp With Math*™ Activities**
1. Express mathematical ideas coherently and clearly to peers, teachers, and others.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Connections

Process Standard	***LineUp With Math*™ Activities**
1. Formulate real-world situations that require extended investigations, solve them, and justify answers.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

2. Establish connections among mathematical expressions, physical models, pictorial representations, and real-world situations.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
5. Recognize and apply mathematical ideas and relationships in areas outside the mathematics classroom, e.g., art, science, other curricular areas, and everyday life.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
Representation	
Process Standard 2. Represent mathematical concepts using physical models, visualizations, and appropriate symbolic notations.	***LineUp With Math™* Activities** --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
3. Represent problem situations verbally, numerically, graphically, geometrically, or algebraically.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

Standard 1 Students will acquire number sense and perform operations with rational numbers.	
Objective 1 Compute fluently and make reasonable estimates.	
Objective 1. Estimate solutions to problems.	***LineUp With Math™* Activities** --Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control. --Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
3. Determine the reasonableness of an answer by relating it to the problem.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Standard 2 Students will represent and analyze mathematical situations and properties using patterns, relations, functions, and algebraic symbols.	
Objective 2 Evaluate, solve, and analyze mathematical situations using algebraic properties and symbols.	
Objective	***LineUp With Math™* Activities**
1. Solve real-world problems involving constant rates of change, e.g., rates of travel, hourly wages, or rates of interest.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Standard 3 Students will solve problems using spatial and logical reasoning, applications of geometric principles, and modeling.	
Objective 2 Specify locations and describe spatial relationships using coordinate geometry.	
Objective	***LineUp With Math™* Activities**
2. Solve problems using the distance formula.	-- Predict and plot the relative motion of two or more airplanes on given paths.

Standard 4 Students will understand and apply measurement tools, formulas, and techniques.	
Objective 1 Understand measurable attributes of objects and the units, systems, and processes of measurement.	
Objective	***LineUp With Math™* Activities**
1. Solve problems and express answers using appropriate units of measure.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
2. Express the rate of change as a ratio of two different measures.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.
3. Select appropriate units to achieve the desired precision when solving problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.